

REMARKS

This is intended as a full and complete response to the Office Action dated December 29, 2005, having a shortened statutory period for response set to expire on March 29, 2006. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1-37 remain pending in the application and are shown above. Claims 1-37 stand rejected. Claims 1, 9, and 12 are amended to clarify the invention. Reconsideration of the rejected claims is requested for reasons presented below.

Claims 1-37 stand rejected under 35 U.S.C. § 102(e) as being anticipated by *Schmitt et al.* (U.S. Patent No. 6,913,992). The Examiner states that *Schmitt et al.* teaches depositing a silicon carbide layer. Applicant respectfully traverses the rejection.

Schmitt et al. discloses using silicon-containing compounds, such as organosilicon compounds to deposit material layers containing both silicon and carbon atoms, such as silicon carbide layers and silicon oxycarbide layers. Applicant respectfully submits that an amorphous carbon layer includes a material containing carbon atoms in association with various amount of hydrogen atoms and does not contain silicon atoms, whereas a silicon carbide or silicon oxycarbide layer includes a fundamentally different material which contains silicon and carbon atoms, among others. *Schmitt et al.* does not teach, show, or suggest a process gas including one or more hydrocarbon compounds without containing silicon. In addition, *Schmitt et al.* does not teach, show, or suggest depositing an amorphous carbon layer consisting essentially of hydrogen and carbon.

Accordingly, *Schmitt et al.* does not teach, show, or suggest positioning the substrate in a processing chamber, introducing a processing gas into the processing chamber, wherein the processing gas comprises one or more hydrocarbon compounds without containing silicon and an argon carrier gas, generating a plasma of the processing gas by applying power from a dual-frequency RF source, and depositing an amorphous carbon layer consisting essentially of hydrogen and carbon on the substrate, as recited in claim 1 and claims 2-8 dependent thereon.

In addition, *Schmitt et al.* does not teach, show, or suggest forming a dielectric material layer on a surface of the substrate, depositing one or more amorphous carbon layers consisting essentially of hydrogen and carbon on the dielectric material layer by a process comprising introducing a processing gas comprising one or more hydrocarbon compounds without containing silicon and an argon carrier gas and generating a plasma of the processing gas by applying power from a dual-frequency RF source, etching the one or more amorphous carbon layers to form a patterned amorphous carbon layer, and etching feature definitions in the dielectric material layer corresponding to the patterned one or more amorphous carbon layers, as recited in claim 9 and claims 10-21 dependent thereon.

Further, *Schmitt et al.* does not teach, show, or suggest depositing one or more dielectric layers on a substrate surface, wherein the one or more dielectric layers comprise silicon, oxygen, and carbon and has a dielectric constant of about 3 or less, forming one or more amorphous carbon layers consisting essentially of hydrogen and carbon on the one or more dielectric layers by a process comprising introducing a processing gas comprising one or more hydrocarbon compounds without containing silicon and an argon carrier gas and generating a plasma of the processing gas by applying power from a dual-frequency RF source, defining a pattern in at least one region of the one or more amorphous carbon layers, forming feature definitions in the one or more dielectric layers by the pattern formed in the at least one region of the one or more amorphous carbon layers, and depositing one or more conductive materials in the feature definitions, as recited in claim 22 and claims 23-37 dependent thereon. Withdrawal of the rejection is respectfully requested.

In conclusion, the reference cited by the Examiner does not teach, show, or suggest the invention as claimed.

Having addressed all issues set out in the office action, Applicant respectfully submits that the claims are in condition for allowance and respectfully requests that the claims be allowed.

Respectfully submitted,



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